

REMARKS

Claims 1-21 are pending in the subject application, of which claims 1 and 10 are independent.¹ Claims 18-21 are new. Favorable reconsideration and further examination are respectfully requested.

Claim rejections under 35 U.S.C. § 102

Claims 1-17 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,543,958 (Lebby).

Independent claim 1 is shown below.

1. A light sensor for determining a position of a light source, the light sensor comprising:
a photodetector, and
a light modulator configured to modulate a quantity of light hitting the photodetector based on an incident angle (α) of output light from the light source, wherein the light hitting the photodetector falls on the photodetector without substantial dispersion of the light,
wherein the light modulator comprises a transparent block having a cavity formed in a side of the transparent block where the light enters the transparent block.

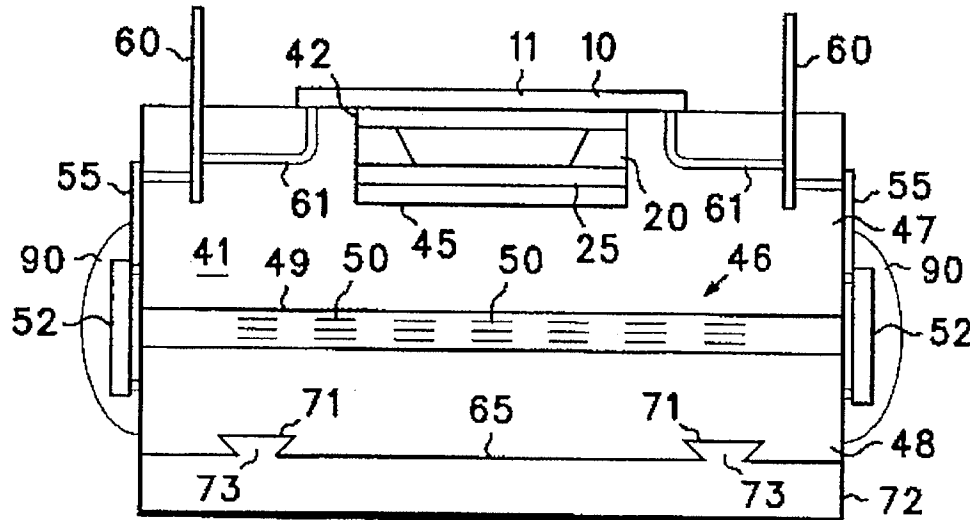
Lebby is not understood to disclose at least the underlined portions of claim 1 above.

More specifically, Lebby is understood to disclose an integrated electro-optic package for reflective spatial light modulators.² Referring to figure 3, (reproduced below), Lebby is understood to disclose an integrated electro-optic package 40 that includes a reflective spatial light modulator stack 10.³

¹ The Examiner is urged to independently verify this recitation of the pending claims.

² Lebby, col. 2, lines 34-45.

³ Id., col. 5, line 56 – col. 6, line 19.



40 **FIG. 3**

An optically clear support 41 includes a cavity 42 that allows the stack 10 to be nested within the cavity.⁴ A glass window 25 rests near the lower surface of cavity 42. A polarizing plate 45 is positioned in the cavity between the lower surface of the cavity and glass plate 25 so that all light entering or exiting glass plate 25 passes through and is polarized by polarizing plate 45.⁵

These features of Leby are different from the features recited in the Applicant's claim 1. On page 2 of the office action, however, the Examiner alleges that Leby discloses the foregoing features of claim 1. In this regard, the office action states:

Regarding claim 1, Leby et al. shows in Fig. 3 a light sensor for determining a position of a light source, the light sensor comprising: a photo detector, and a light modulator (40, i.e., integrated electro-optical package) configured to modulate a quantity of light hitting the photo detector based on an incident angle (.alpha.) of output light from the light source, wherein the light hitting the photo detector falls on the photo

⁴ Id.

⁵ Id.

detector without substantial dispersion of the light, wherein the light modulator comprises a transparent block (41, i.e., optically clear support) having a cavity (42) from a side where the light (52, light source) enters the transparent block (Col. 5, lines 56 - Col. 6, lines 19).⁶

The Applicant submits that the features of Lebby described by the Examiner are distinguishable from the features recited in the Applicant's claim 1.

As a first matter, Lebby fails to disclose "a light sensor for determining a position of a light source" as recited in claim 1. In contrast, Lebby discloses that the electro-optic package includes a reflective spatial light modulator stack 10 that modulates light emitted from fixed light sources 52.⁷ As the light sources are fixed relative to the package 40, Lebby does not disclose a light sensor for determining a position of a light source.

Lebby also fails to disclose a photodetector. While the Examiner contends that the electro-optical package includes both a photodetector and a light modulator, Lebby appears to be silent with regard to the inclusion of a photodetector in electro-optical package 40. As described above, the electro-optical package is understood to include a number of components, such as the reflective spatial light modulator stack 10; however, neither the electro-optical package, nor Lebby as a whole, appears to disclose a photodetector.

Furthermore, Lebby does not disclose "a light modulator configured to modulate a quantity of light hitting the photodetector based on an incident angle of output light from the light source."⁸ In contrast, Lebby discloses that light emitted by the light sources 52 passes through an optical waveguide 46 including a plurality of elements 50 for deflecting portions of the light from light sources 52 towards the stack 10. Lebby discloses that the optical waveguide

⁶ Office Action dated April 1, 2008, page 3.

⁷ Lebby, col. 6, lines 52-54.

⁸ Emphasis supplied.

is configured such that “the deflected portions of the light from light sources 52 substantially evenly illuminate the array of relective spatial light modulator pixels.”⁹ Because the light emitted by the light sources 52 does not hit the liquid crystal material 22 in a predefined incident angle, the liquid crystal material 22 does not modulate a quantity of light based on an incident angle of output light from the light source. For these same reasons, Lebby also fails to disclose that “light hitting the photodetector falls on the photodetector without substantial dispersion of the light.”¹⁰

Lebby also fails to disclose a transparent block having a cavity formed in a side of the transparent block where the light enters the transparent block. The Examiner relies on cavity 52 in which the stack 10 is positioned. However, the cavity 52 is located at a side of the support 41 opposite to the side where the light enters the support 41. In particular, light emitted from the light sources 52 enters the support through the waveguide 46. In this regard, Lebby states:

In the specific embodiment illustrated in FIG. 3, optical waveguide 46 extends from one side of optically clear support 41 to an opposing side. The exposed ends are polished or otherwise adapted for the introduction of light thereto. A light source 52 is mounted at each end of core 49 of waveguide 46 so that light from light source 52 is directed into core 49.¹¹

For at least the foregoing reasons, claim 1 is believed to be patentable over the applied art.

Independent claim 10 recites features that are similar to those recited in claim 1, and is believed to be patentable for at least the same reasons discussed above with regard to claim 1.

⁹ Id., col. 7, lines 5-10 (emphasis supplied).

¹⁰ Emphasis supplied.

¹¹ Id., col. 6, lines 48-54 (emphasis supplied).

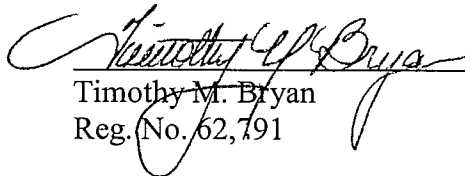
Each of the dependent claims is believed to define patentable features of the invention. Each dependent claim partakes of the novelty of its corresponding independent claim, in light of the foregoing amendments, and, as such, has not been discussed specifically herein.

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Please apply any other charges or credits to deposit account 06-1050, referencing Attorney Docket No. 14219-0120US1.

Respectfully submitted,

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